SDM-CD16D

16-Channel Digital Control Port Expansion Module

CAMPBELL SCIENTIFIC®
WHEN MEASUREMENTS MATTER

The SDM-CD16D increases the number of digital outputs that can be controlled (i.e., set to 0 or 5 V) by a Campbell Scientific datalogger. In addition to being able to drive normal logic level inputs, when an output is set HI, a boost circuit allows it to source a current of up to 100 mA for controlling low voltage valves, relays, or other devices.

The SDM-CD16D is intended for low voltage, low power applications not suitable for the SDM-CD16AC. The unit cost is also considerably lower.

SDM Operation

The SDM-CD16D is a synchronously addressed datalogger peripheral. Datalogger control ports 1, 2, and 3 are used to address the SDM-CD16D then clock out the desired state of each of the 16 control ports. Up to 16 SDM-CD16Ds may be addressed, making it possible to control a maximum of 256 ports from the first three datalogger control ports.

Datalogger Connection

The CABLE5CBL-L is recommended for connecting the module to the datalogger. A 1-ft cable length should be sufficient when both datalogger and SDM-CD16D are housed within an ENC12/14 enclosure; a 2-ft length may be required if the datalogger and SDM-CD16D are housed at opposite ends of an ENC16/18 Enclosure.

The cable length should be as short as possible. Typically, the maximum cable length is 20 ft. Contact Campbell Scientific if the length needs to be longer.

Power Considerations

The SDM-CD16D power requirements are large compared to most Campbell Scientific products when driving significant loads. For many applications an external power supply is recommended to power the SDM-CD16D. For some applications, it may be convenient to use the datalogger supply to power the SDM-CD16D.

For long-term applications, the sealed rechargeable power supply available with Campbell Scientific dataloggers should be used, allowing the batteries to be float charged. Alkaline batteries are not recommended for long-term applications.

Ordering Information

Synchronous Device for Measurement	
SDM-CD16D	16-Channel Digital Control Port Expansion Module
SDM-to-Datalogger Cable	
CABLE5CBL-L	5-conductor, 24 AWG cable with drain wire and Santoprene jacket. Enter cable length, in feet, after the -L. Must choose a cable termination option (see below).
Cable Termination Options (choose one)	
-PT	Cable terminates in stripped and tinned leads for direct connection to a datalogger's terminals.
-PW	Cable terminates in connector for attachment to a prewired enclosure.

Specifications

Compatible Dataloggers: CR800, CR850, CR1000, CR3000, CR5000 (OS version 1.3 or higher), CR7, CR10(X), CR23X, and 21X. The SDM-CD16D is not compatible with the CR500, CR510, and CR200-series dataloggers.

Power

Operating Voltage: 12 Vdc nominal (9 to 18 Vdc)

Current Drain @ 12 Vdc: 100 µA typical (all ports HI, no load)

Specifications Continued

Environmental

Operating Temperature: -25° to +70°C

Physical

Dimensions: 9-in. x 4-in. x1-in. (23-cm x 10-cm x2.4-cm)

Weight: 0.77 lbs (0.35 kg)

EMC Status: Complies with EN55022-1:1998 and EN50082-1:1998

Output

Output Voltage (no load): Output ON/HI, Nominal 5 V (Minimum 4.5 V)

Output OFF/LO: Nominal 0 V (Maximum 0.1 V)

Output Sink Current: Output will sink 8.6 mA from a 5 V source

Output Source Current: Output will source 36 mA @ 3 V, 115 mA short-circuited to ground

Maximum Output Current[1]: 400 mA at 50°C & 12 V supply

---

[1]The maximum current (total all outputs) should be derated by 50 mA for every 10°C above 50°C and/or 50 mA for every voltage above 12 V.

Campbell Scientific, Inc. | 815 W 1800 N | Logan, Utah 84321-1784 | (435) 753-2342 | www.campbellsci.com
USA | AUSTRALIA | BRAZIL | CANADA | COSTA RICA | ENGLAND | FRANCE | GERMANY | SOUTH AFRICA | SPAIN

Printed September 2009